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A challenger for iSCSI
Zetera's IP-based transport promises fast, more affordable networked storage

Storage Insider, By Mario Apicella
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You have probably heard by now that **Dell** (Profile, Products, Articles) is offering an iSCSI version of the AX100, their entry-le array for SMBs developed in cooperation with **EMC** (Profile, Products, Articles).

It's an option that makes much sense, considering the target market of the AX100, and one that makes the unit more appealing to first-time networked storage buyers because it saves the cost of building a separate FC (Fibre Channel) network.

The starting price of the new model, named AX100i (of course), is $5,000. With the inherently simpler management of iSCSI networks, the unit is less expensive to buy and to deploy than its FC version.
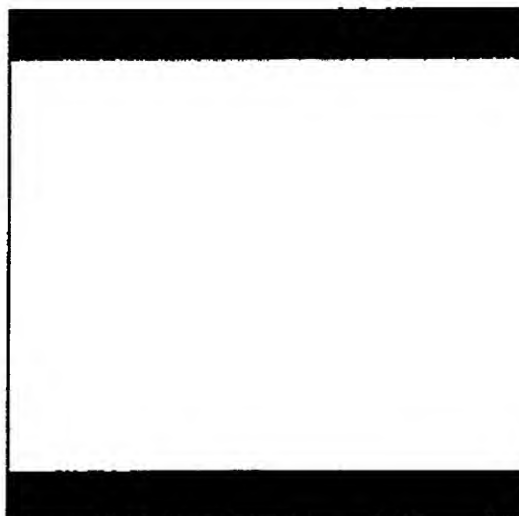
This new episode in the iSCSI vs. FC rivalry reminded me that another technology, with the promise of further lowering the cost of networked storage while maintaining exceptionally fast performance, will soon enter the tournament.

This new — and for now unnamed — storage networking technology originated from newcomer Zetera (accent is on the first syllable), which made the initial announcement in January. Zetera is not involved in manufacturing products, but its forthcoming technology has already captured the interest of companies such Bell Microproducts, Netgear, and StorCase.

In essence, Zetera has created a new and unique approach to storage networking based on block-based access to remote disk drives over Ethernet using the familiar IP protocol.

That description could fit iSCSI as well, but Zetera takes a slightly different approach that essentially makes each networked drive smarter and able to communicate independently with multiple fact, using a proprietary card that translates UDP (user datagram protocol) frames into disk commands, Zetera makes each su network citizen with its own IP address. On the computer side, device drivers and management software enable basic disk co1 and management, plus connectivity to the remote drives, of course.

The first striking difference between Zetera's technology and other storage networks is the lack of controllers on target storage

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used to a hierarchical storage structure where a host can access disk drives only via intermediary I/O controllers that removing potential source of bottlenecks from our minds may require some adjustments in our approach.

In a Zetera storage network, each drive can be the target of unmediated, point to point, or multicast communications with a ho payload for each UDP packet can be as much as 32KB, a respectably high value that makes the technology a good candidate intensive applications such as volume copies or backups

It's interesting to note that the lack of controllers doesn't prevent the use of RAID for added performance and reliability: Accorc Zetera, its streamlined architecture translates into efficient software-based RAID.

If you're asking why Zetera would multicast frames, the reason is that a single logical volume can be spread for performance, for improved reliability, across multiple physical drives – hence the need to multicast, or essentially send the same command addresses.

Zetera also allows you to slice a single drive into multiple volumes, which explains why each command bears an LBA (logical address) range in addition to the IP address to identify its target.

I have seen a convincing demo of an embryonic Zetera network made up of a laptop host and a prototype box containing an I the interface card. Soon we may see conceptually similar units enter the home and SOHO computing markets, but Zetera has ambitious plans for its technology that include entry level and midtier storage.

On paper, a technology such as Zetera's that promises fast performance, easy management and contained cost should be a c in a market such as networked storage that, like the AX100i announcement suggests, is still struggling to find the right compro between performance and cost.

In practice, the success of Zetera's approach to storage networks will be determined by its acceptance by mainstream vendors end, home computing, and SOHO markets, Zetera has no rivals – but conquering a space in the SMB and midtier storage cou struggle. Vendors of iSCSI solutions know this all too well.

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